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ABSTRACT

A previous version of expectation theory assumed that the likelihood that evaluations will be accepted and used to assign performance expectations for group members depends upon the perceived ability level of the evaluator. An extension of the theory asserts that, in the absence of knowledge of the evaluator's ability, acceptance of his evaluations depends upon his status characteristics. In an experimental test, 100 subjects were assigned randomly to four conditions, where they received either postive or negative evaluations from an evaluator possessing either higher or lower status than they. Results were as predicted for three of the four conditions; a possible interpretation of the one discrepancy is considered, and its theoretical significance is discussed. (Author)

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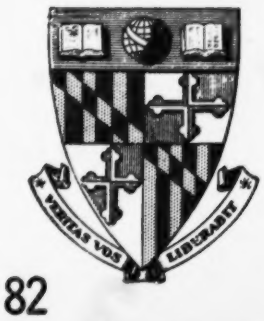

THE JOHNS HOPKINS UNIVERSITY

REPORT No. 82

STATUS CHARACTERISTICS AND SOURCES OF EXPECTATION

MURRAY A. WEBSTER, JR.

SEPTEMBER, 1970

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Expectation Theory

This paper reports results of an experiment designed to test an extension of expectation theory. Expectation theory is a set of formal propositions developed to account for phenomena associated with the emergence and maintenance of power and prestige structures in informally organized, task-focused groups, such as Bales-type discussion groups, juries, student study groups, or ad hoc committees. (See Berger and Snell, 1961; Berger and Conner, 1969 ; Berger, et. al., 1966.) According to the theory, each person's performance is evaluated by the other members of the group. These evaluations become the basis for each person's conception of his own ability and the abilities of the others. The likelihood of any evaluation being accepted by the members of the group depends on the characteristics of the person making the evaluation.

Expectation theory identifies the relevant components of the power and prestige structure of the group as the following: action opportunities, or socially distributed chances to perform; performance outputs, or problem-solving attempts; unit evaluations, or individual evaluations of individual performance outputs; agreement or disagreement which these evaluations elicit from other members of the group; acceptance of influence in case of disagreement; and expectation states for the quality of future performance of each member of the group. Once expectation states come to be associated with every member of the group, all observable components of the power and prestige structure are assumed to be distributed in accord with these expectation states. The higher the expectations held for a given actor, the more likely he is to receive an action opportunity, to accept a given action opportunity and make a performance output, to receive agreement and positive evaluations from others, and to reject influence in case of disagreement with others.

Before any interaction takes place within the group, these components of the power and prestige structure are assumed to be randomly distributed among the members. The evaluation process is particularly important because at some point a series of unit evaluations of an individual's performance is assumed to generalize into an overall ability evaluation--that is, an expectation state--for that individual. Expectation states tend to be self-maintaining, for once they exist, they affect the very conditions (the nature of the unit evaluations) which led to their establishment. Therefore the early phases of face-to-face interaction are the crucial determinants of the future interaction patterns in a group. This result has frequently been reported for discussion groups. (See, for example, Bales, 1953; Bales and Slater, 1955; Barchas and Fisek, 1969; Fisek, 1969; Kadane, et al., 1969.)

The theory in this early form left an important question unanswered: what characteristics must a member of the group possess in order for his evaluations to be used by the others in forming performance expectations? In an attempt to answer this question, the theory was extended to include the concept of a source--that is, an actor whose opinions will be accepted and used by others in making their own unit evaluations of performance. The higher the perceived ability of an individual, the more likely he is to be accepted as a source. Empirical research designed to test this version of the theory has produced support for the major derived predictions (Webster, 1969).

The first extension of the theory leaves another question unanswered: how will an individual decide whether to accept another as a source if he has no information about the other's ability to perform the task? A satisfactory solution to this problem would, of course, greatly widen the

scope of situations for which the theory can make predictions. The following propositions constitute a further extension of the theory, designed to increase its scope while retaining its previous formal structure.

Since the theory is concerned with explaining the formation of expectations for self and others, the actors are assumed to begin the task with no conceptions of their own or of each others' abilities. Further, the theory is limited to groups whose members are task-oriented and collectively oriented. The task-orientation condition means that the members believe there is a correct or "best" solution to the problem and that they are motivated to achieve that solution; by contrast, one could speak of a process-oriented group, in which the members are primarily concerned with having a smooth, agreeable social interaction. Collective orientation means that it is both legitimate and necessary for the group members to consider each others' opinions in solving the group problem. These scope conditions are presented formally in the definition of situations to which the theory is intended to apply:

Definition 1: A situation is task-situation S if and only if it contains:

a. at least two actors, p and o, making performance outputs;

b. an actor E making unit evaluations of those performance outputs;

c. no previous expectations held by p and o of their own or of any other actor's ability at the task;

d. task-orientation of all actors;

e. collective orientation of all actors.

Definition 2 introduces the concept of a source:

Definition 2: E is a source for p in task-situation S if and only if p considers E to be more capable of evaluating performance than p is.

At this point, if p accepts E as a source, assumption 1 asserts that p will also accept his evaluations.

Assumption 1: In task-situation S, if E is a source for p, then p will agree with E's unit evaluations of any actor's performances.

Note that by assumption 1, p may be concerned with evaluating either his own performances or those of another actor such as o. If p has not accepted E as a source, then the theory makes no prediction for p's evaluation of the performance output.

Assumption 2 specifies the relation of unit evaluations to the formation of expectations for an individual.

Assumption 2: In task-situation S, if p evaluates a series of performances by any actor, then he will come to hold an expectation state for that actor which is in accord with those evaluations.

Assumption 3 specifies the effect of p's expectations for other actors upon his observable interaction with them. Assumption 4 specifies the effect of the expectations p holds for both himself and others upon his observable interaction with those others.

Assumption 3: In task-situation S, if p holds high expectations for any actor o_1 then as compared to a second actor o_2 for whom p holds low expectations:

a. p will give o_1 more action opportunities than o_2;

b. p will be more likely to evaluate positively o_1's future performance outputs than o_2's;

c. in case of disagreement between o_1 and o_2, p will be more likely to agree with o_1;

d. p will be more likely to accept o_1 than o_2 as a source.

Assumption 4: In task-situation S, if an actor p_1 holds high expectations for himself and low expectations for o, then as compared to a second actor p_2 who holds low expectations for himself and high expectations for o:

a. p_1 will be more likely to accept a given action opportunity and to make a performance output;

b. in case of disagreement with o, p_1 will be more likely to reject influence than p_2.

So far, this version of the theory is similar to that which was developed and tested earlier. However, these propositions differ in a crucial respect from the previous version: in this version, part (c) of definition 1 specifies that the actors begin with no information as to the ability of any of the actors in the situation, including the evaluator.

According to the theoretical structure, if p could make a decision about the ability of E, then (by assumption 3d) he would be able to decide whether to accept him as a source. But since we have specified that he not be given this ability information, some sort of inferential process

must occur if p is to reach any conclusion as to E's ability. The question then arises as to what sort of information p might consider useful in making the inference.

Berger et. al. (1966) have constructed a version of expectation theory which asserts that under certain conditions, in the absence of direct information about the task ability needed to solve the problem, actors will form expectations which are based upon the state of a single diffuse status characteristic possessed by the individual. In the case of a status characteristic which is directly relevant to the task, this assertion seems plausible; for example, it is reasonable to assume that a physician would be believed to be more qualified to diagnose illness than a nurse. However, they have asserted further that the group members need not know that the status characteristic is directly relevant to the task ability required, so long as they do not know that it is irrelevant.

In other words, the group members will consider any status characteristic relevant unless they have reason to believe otherwise. Research designed to test similar formulations of the theory has produced empirical support for the major derived predictions (Moore, 1968; Cohen et al., 1969).

Concerning the acceptance of an evaluator as a source, a similar assertion would specify that if p does not know the ability of the evaluator, but does know that he possesses the high state of a status characteristic, then p will infer from this that the evaluator has high ability, and on the basis of this inference, will form high expectations for him and thus be likely to accept him as a source. Like the assertion proposed by Berger, et. al., this assertion will be assumed to be true regardless of the task, and in the absence of information as to the relevance of the status characteristic to the task.[2]

The first step is to define precisely what is meant by a status characteristic. All that will be required is that it be a property of an individual which may be used to describe him, and that the property possess different states which are evaluated in the same way by all members of the group. For simplicity, status characteristics will be allowed to take on only two states, positively evaluated and negatively evaluated; however this simplification need not restrict the generality of the theory, for it will always be possible to substitute the words "preferred" and "non-preferred" for the high and low states, respectively. Thus, race could be a status characteristic, with the preferred or highly evaluated state being white, and the low state, non-white. If blood type, RH+ or RH-, does not have a preferred state, then it would not fit the definition of a status characteristic. These considerations are stated formally in definition 3.

Definition 3: A characteristic D is a diffuse status characteristic if and only if the states of D are differentially evaluated in the same way by all the actors in S.

Assumptions 5 and 6 specify the circumstances under which the theory predicts that actors will come to hold expectations for an evaluator, based upon knowledge of a status characteristic which he possesses. The question arises as to the circumstances under which p will think that knowledge of states of D is helpful in assigning performance expectations to himself and to any other actor.

It seems reasonable to assume that a person's judgment of another's ability will be affected by the knowledge that the other possesses a higher

or a lower state than he himself does, but will not be affected by the knowledge that the other possesses a state equal to his own. That is, knowing that another person possesses equal status to one's own on some diffuse status characteristic (such as race or sex, for example) does not seem sufficient "reason" to conclude that he possesses <u>equal ability</u> at some task which is not specifically related to D. However, there is both theoretical and empirical reason to believe that knowledge that the other person possesses a <u>different</u> state of D <u>will</u> lead to a differential performance expectation. Assumption 5 thus asserts that only when the evaluator has a different state of D from that which p possesses will p try to infer from the status characteristic an expectation state for him; this is the meaning of the term "salient." Assumption 6 then asserts the link between D and an expectation state.

<u>Assumption 5:</u> In task-situation S, D will become a <u>salient</u> factor to p for assigning expectations if and only if he and any other actor possess different states of D.

<u>Assumption 6</u>: In task-situation S, p will assign expectation states to any actor on the basis of the state of a salient D if and only if p does not believe that D is irrelevant to the task.

This completes the task of extending the theory to cases where performances are being evaluated by an actor whose specific task ability is unknown. If a person p is aware that he and the evaluator E possess different states of some single diffuse status characteristic D, the theory predicts that he will infer from this an ability level--hence an expectation state--for the evaluator. Once he has done this, p will either accept or reject E's evaluations in a manner equivalent to that which he would use

if he possessed information about E's ability. Three types of cases which are still outside the scope of the theory should be noted. This extension of the theory cannot be used to derive predictions when p has no information about either the ability or the status of an evaluator, when p and E possess the same state of D, or when p and E differ on more than one diffuse status characteristic.[3] Thus, all that can justifiably be claimed is that the additional propositions have contributed a substantially wider scope to the theory than it possessed in the version reported earlier.

Derived predictions used to test this extension of the theory were selected to be directly comparable to those of the earlier study in which the evaluator had a known (high or low) ability, but possessed a state of D equivalent to p's. In order to observe the effect of the two variables, status of the evaluator and nature of unit evaluations, certain crucial features of the open interaction situation were strictly controlled: the allocation of action opportunities, performance outputs, and the nature of the public unit evaluations were all held constant.

Before drawing the derivations, it will be helpful to introduce some abbreviated notation.

Consider the following situation, which meets the scope conditions in situation S: two actors, p and o, are making a series of performance outputs at some task, and a third actor, E, is evaluating their performances. To one of the actors, say p, E is giving a large proportion of positive unit evaluations; to o, a large proportion of negative unit evaluations. We will say that actor p is then in the (+ -) condition, and the other actor o is in the (- +) condition.[4] The theory allows us to speak of two types of evaluators, one who possesses a higher state of D than p does,

and one who possesses a lower state of D. The former may be called a High Status evaluator, or HE; the latter, a Low Status evaluator, or LE.

Combining the notation for evaluators with that for evaluation conditions yields the following four experimental conditions: HE(+ -), HE(- +), LE(+ -), LE(- +). Thus, for example, if p has received a large proportion of positive unit evaluations and o has received a large proportion of negative unit evaluations from an evaluator possessing the high state of D, from p's point of view, this is the HE(+ -) condition; the other three conditions may be interpreted similarly.

Assumptions 1, 2, and 3d together imply that when p holds high expectations for the evaluator, he will be quite likely to accept those evaluations and to form expectations for his own and for o's performances which are based upon them. Adding assumptions 5 and 6 implies that p <u>will</u> form high expectations for an evaluator who possesses the high state of the characteristic, and that evaluations from such an E therefore will be quite likely to affect p's expectation state. Then assumption 4b relating acceptance of influence to expectation states implies the following empirically testable derived prediction:

> <u>Derivation 1</u>: In case of disagreement with o, the probability of p's rejecting influence is greater in the HE(+ -) condition than in the HE(- +) condition.

The case of the LE is somewhat more complex, but still manageable. Assumptions 5 and 6 predict that p will form low expectations for E's performances, but this does not preclude acceptance of him as a source. The reason for this is that by definition of situation S, p has no idea of his own ability, so that it is possible that an actor in this condition

will decide that the LE has more ability than he himself possesses (thus fulfilling definition 2), and then by assumption 3d, p will accept the LE as a source. Thus:

Derivation 2: In case of disagreement with o, the probability of p's rejecting influence is greater in the LE(+ -) condition than in the LE(- +) condition.

Similar unit evaluations are predicted to be more likely to be "effective" coming from the HE than from the LE; thus:

Derivation 3: In case of disagreement with o, the probability of p's rejecting influence is greater in the HE(+ -) condition than in the LE(+ -) condition.

Derivation 4: In case of disagreement with o, the probability of p's rejecting influence is greater in the LE(- +) condition than in the HE(- +) condition.

Combining these four derivations yields:

Derivation 5: In case of disagreement with o between p and o, the probabilities of p's rejecting influence will be in the following order:

HE(+ -) > LE(+ -) > LE(- +) > HE(- +).

The Experimental Study

These derived predictions were tested by means of an experiment in which 100 subjects participated; 25 were assigned randomly to each of the four conditions. All subjects were males between the ages of 16 and 18 recruited from several private high schools in Baltimore, Maryland. They were contacted by telephone and scheduled for the groups, all of which were conducted at the Social Relations Laboratory, The Johns Hopkins University.

Each group consisted of two subjects from the same high school. In order to minimize the effect of any previous general expectations which acquainted individuals might have for each other, an attempt was made to prevent the members of any group from seeing each other before the experiment. As each individual arrived for his appointment, he was taken immediately into the Laboratory and seated at a table numbered either 1 or 2. These tables are separated by a partition, so that the subjects cannot see each other during the group meeting, but both can see the two experimenters[5] seated at the front of the room.

As soon as the second member of the group arrived and was seated, one of the experimenters (here called the "boardman") distributed slips of paper which had blanks for each subject to write his name and school attended. These were collected, and the name of the school both subjects attended was written on a chalkboard at the front of the room in spaces labelled "Person #1_____," and "Person #2____." Then the second experimenter (here called "host") read a standardized procedure which described the experiment as a study of individual and group problem solving, consisting of two parts. In the first part, each of the two subjects was to make choices about a series of 20 slides. Each choice was to be communicated to a (fictitious) third student in another room, who would

then be shown the same slide and would evaluate the choices made by persons #1 and #2. The subjects were informed that "Person #3 does not have an answer key to these slides. However before he makes his choice for each slide, he will see your choices, and he will evaluate them according to his ability to judge. When he makes his choice, it will be communicated to each of you." The subjects were then shown a sample of the task. In order to minimize the effect of any previous expectations they might have held for their own performances, the task was described as being, and in fact is, quite unlike anything they had ever done before. Each slide is composed of two patterns of black and white rectangles arranged in a random checkerboard design. The task is to decide which of the two patterns contains the greater area of white. The slides are ambiguous, both in the sense that there are no objectively correct answers, and more importantly, in the sense that extensive pre-testing has established that the empirical probability of choosing either alternative is very close to .50.[6]

All choices were indicated by subjects on a panel each had before him. The communication machine is a system of buttons to indicate binary choices and lights which indicate choices of others in the group. All communication through the machine is under full control of the experimenter.[7]

After the task and use of the machine were explained, the boardman described a chart which was displayed at the front of tne room. The chart gives "National Standards" which define superior, average, and poor performances at the slide-judging task: 16-20 correct out of 20 is "superior," 11-15 is "average," and 0-10 is "poor." After making certain that both subjects understood the task and the standards, the boardman left the room. The host summarized and repeated crucial parts of the instructions,

and then said "If everything is clear, we'll be ready to begin as soon as they're ready in the next room." The boardman interrupted over the intercom as follows:

Boardman: Pardon me, Dr. Gordon. We're ready in here.

Host: Who is the person who is acting as the evaluator for this group?

Boardman: Person #3's name is William Mason. [He's a junior at (name of college) or He's in the 8th grade at _____Junior High School.]

The host wrote the name of the college or junior high school on the board in the space labelled "Person #3:_____." This constituted the HE--LE manipulation, using a status characteristic which might be termed "level of academic attainment."

Then the host presented the first series of slides. After viewing each slide for 5 seconds, each subject indicated his choice by pressing the appropriate button on his panel. Thus he was given an action opportunity which he had to accept by making a performance output. After another 5-second delay, during which time Person #3 was presumably studying the slide along with both subjects' choices, a light appeared on each subject's panel beside the words "#3's evaluation." Thus he received a unit evaluation of his performance output. Person #3 sent one of the subjects a large proportion of positive evaluations and the other a large proportion of negative evaluations.

After this series of slides, the following tape recording was played over the intercom into the interaction room:

Boardman: Person #3, how many of the 20 slides in the series did you think Person #1 gave the correct answer to?

Mason: I think he got 17 out of 20.

Boardman: And #2?

Mason: Uh, 9 out of 20.

This constituted the (+ -) and (- +) expectation condition manipulation. At this point, if the subject has accepted the evaluator as a source, the theory predicts that he is likely to hold an expectation state for himself and for the other subject which is congruent with #3's evaluations. Acceptance of #3 as a source is, of course, predicted to be contingent upon the HE--LE manipulation.

The recording used for the expectation condition manipulation was the same whether Person #3 was described as the HE or as the LE. This meant that such factors as tone of voice, "confidence," etc., were constant across status manipulation conditions.

The derived hypotheses were tested in Phase II of the experiment. This time, the host explained, both subjects were to work together "as a team" on a second series of slides. Each would make an initial choice and would be informed of the other's initial choice; they would have 5 more seconds to restudy the slide; and then each of them would make a private final decision. Initial choice feedback was under control of the experimenter, and the subjects were told that they disagreed with each other on 20 of the 23 trials. The proportion of times that subjects in each condition resolved disagreements in favor of self, P(s), was then computed as the measure of rejection of influence.

Following the disagreement trials, each subject was interviewed separately by one of the experimenters. First he was asked questions to

ascertain whether the scope conditions of the study had been met. Then the entire study was explained to him. All false information given during the study was corrected, the necessity for the deception was explained, and any questions he had were answered. After this, he was asked not to discuss the study in detail with any friends who might participate in the future, he was thanked, and was paid for his time.

Based upon the interview criteria, data from three subjects were excluded from analysis for failing to meet the scope conditions of the study. One expressed a definite belief that the disagreements were not real and that he did not try to resolve them; one expressed a definite belief that the evaluator did not possess the status characteristic attributed to him; and one apparently seriously misunderstood the instructions--he said he thought that #3 <u>did</u> have an answer key to the slides.

Table 1[8] presents for each condition, the statistic employed for the major test of the derivations from the theory, the overall mean P(s), or proportion of times the subjects rejected influence.

Table 1 About Here

It indicates that these data are in accord with derivations 1, 2, and 3 but not with derivation 4. The overall mean P(s) shown in Table 1 for the LE(- +) and the HE(- +) conditions do not differ as predicted.

As another way of assessing these predictions, as well as of assessing the reliabilities of differences between conditions, Table 2 presents the results of two non-parametric tests for differences of independent samples.

Table 2 About Here

Rows 1 through 4 report the one-tailed probability results of the Mann-Whitney U test, and row 5 reports the result of a Jonckheere test,[9] which tests the difference of all four conditions and of their predicted ordering. By these tests, the differences between conditions support derivations 1, 2, 3, and 5, but not derivation 4, using the conventional .05 level for rejection of the null hypothesis.

Table 3 presents data from the earlier study based on a previous extension of the theory (Webster, 1969) in which the evaluator's ability (rather than his status) was manipulated, and from another study in which the subject's performance was evaluated by the experimenter, (Camilleri and Berger, 1967).

Table 3 About Here

Though conclusions from these comparisons must be drawn more cautiously than is the case for previous tables (due to subject population differences and other historical factors), Table 3 shows there is little difference in mean P(s) between comparable HE conditions of the two source experiments, and between comparable conditions where the experimenter evaluated performances. For the High Ability evaluator, the relevant figures are .80 and .48; for the High Status evaluator, .78 and .50; for the study in which the experimenter acted as the evaluator, the figures are .78 and .44. Differences between comparable LE conditions are greater, with the Low Status evaluator as measured by the difference between the (+ -) and the (- +) conditions. For the Low Ability evaluator, the figures are .65 and .58; for the Low Status evaluator, .70 and .50.

Discussion and Interpretation of Results

The results from the HE conditions of the present experiment clearly support the first prediction derived from the extension of the theory; the difference in rejection of influence between the HE(+ -) and HE(- +) conditions is large and is in the predicted direction. These results also differ very little from those of earlier studies in which the HE condition was defined differently. This similarity of results may be interpreted as evidence that, in this situation, evaluations from a high-credibility evaluator will be equally effective whether the basis for the evaluator's credibility is access to relevant information, high task-ability, or high status on a diffuse status characteristic.

The results from the LE conditions support the second derived prediction; the difference in rejection of influence between the LE(+ -) and LE(- +) conditions is also substantial and in the predicted direction. These results do differ from those of the previous study: the evaluations by the low-status evaluator had greater effect than those by the low-ability evaluator in the earlier study. However, the theory does not provide any quantitative basis for comparing the evaluator-status differences in this experiment with the evaluator-ability differences in the previous experiment. That is, there is no way of determining the exact ability interpretation made by a subject when he is told that the evaluator is either an eighth grade or a college student. Therefore this comparison cannot be used to test the theory.

One result which did not support the corresponding prediction derived from the theory was the lack of difference between the HE(- +) and LE(- +) conditions. In other words, the low status evaluator was more effective in inducing expectation states than the theory would predict, especially in the LE(- +) condition.

Of several possible interpretations of this finding, one which seems especially worth further examination is the possibility that some of the subjects in the LE conditions used some characteristic of the evaluator other than the intended status characteristic (school grade level) in assigning expectations to him. That is, some subjects in the LE conditions may have observed some characteristic of the evaluator which caused them to assign high expectations to him and thus to accept him as a source. If this interpretation were correct, it would mean that the methodology of the experiment allowed some unexpected factor to produce an important effect in the situation.

Recent theoretical work on expectations, by Berger and Fisek (forthcoming) and by Freese (1969), which has been developed since this research was undertaken, asserts that under certain conditions, expectations may form on the basis of <u>either</u> a diffuse status characteristic, <u>or</u> a specific social characteristic, such as ability at some non-related task. Since special care was taken to avoid giving the subjects any status information about the evaluator other than the single characteristic manipulated--the two schools used were selected to be as close as possible to those attended by the subjects in academic quality, SES, race, and sex of students--it seems unlikely that another diffuse status characteristic could have become salient. However it is possible that the subjects could have used a specific social characteristic in order to assign expectations.

Though it is impossible to determine any precise way what proportion of subjects in the LE conditions did use a specific social characteristic, the possibility existed for them to infer other characteristics of the evaluator (besides his academic status) from his voice and speech patterns.

In fact, some subjects spontaneously mentioned that they had done so. In order to provide some information which could be used for a more systematic assessment of this possibility, the transcribed interviews from both LE conditions were analyzed for spontaneous mention of the high state of any specific social characteristic in response to the question: "Can you tell me anything you remember about Person #3?" The responses included remarks such as the following:

> Didn't sound nervous--that was one thing that would convince me that he had a good evaluation.
>
> Definite. He was more, like, he made up his mind.
>
> When he spoke over the intercom, he seemed very sure of himself, so I figured he'd do a good job.
>
> Quite good...efficient...sounded mature for his age.
>
> He's uh, he sounded, sounded, very intelligent for an 8th grader. Like he had a lot on the ball.

Such remarks could have been prompted by either or both of two factors: a rather precise diction and the absence of the prevailing local accent, and the fact that the voice used did belong to a person considerably older than an average eighth grade student.

Five subjects in each of the LE conditions made remarks of this type, which were classified as indicating activation of the high state of a specific social characteristic. Table 4 shows that the effect of evaluations for these subjects especially for those in the LE(- +) condition, was markedly greater than it was for the other subjects in that condition.

Table 4 About Here

In interpreting the data in Table 4, three cautions should be kept in mind. First, the size of the cells is much too small to allow drawing any

definitive conclusions. Second, the interview was not designed for the purpose of eliciting information on specific social characteristics and was not designed to follow up the spontaneous mention of such characteristics in any systematic way. Third, and most important, this secondary analysis of the data was undertaken only as a way of getting information for a preliminary check of a recent theoretical development; certainly it could not be considered a rigorous test of a formal theoretical derivation. Thus these results should be considered suggestive, rather than conclusive. However, both the recent theoretical work and the results shown in Table 4 indicate that possible activation of specific social characteristics should be considered in the design of future studies of this nature using status characteristics as independent variables.

The theory presented in the first part of this paper makes no provision for the activation of a specific social characteristic. The inclusion of one or more additional propositions to include such cases would widen the scope of the theory further, and thus would be desirable. Such extension, of course, will require both theoretical development and experimental tests designed specifically for those extensions.

Theoretical Implications and Practical Applications

One of the major lines of sociological thought regarding self-concept has evolved from the work of Charles Horton Cooley (1902). According to this tradition, the ideas an individual has regarding himself come, not primarily from within, but from the ideas and opinions regarding him which he perceives others to hold:

> In a very large and interesting class of cases the social reference takes the form of a somewhat definite imagination of how one's self--that is any idea he appropriates--appears in a particular mind, and the kind of self-feeling one has is determined by the attitude toward this attributed to that other mind. A social self of this sort might be called the reflected or looking-glass self:
>
> "Each to each a looking-glass
> Reflects the other that doth pass."
>
> As we see our face, figure and dress in the glass, and are interested in them because they are ours, and pleased or otherwise with them according as they do or do not answer to what we should like them to be; so in imagination we perceive in another's mind some thought of our appearance, manners, aims, deeds, character, friends, and so on, and are variously affected by it. (Cooley, 1902, 183-184)

The self-concept of any individual, then is conceived to be the totality of these "looking-glass" impressions. The individual notes the reactions others present to him in his daily encounters, discussions, and social gatherings, and from these reactions he comes to think of himself in terms similar to those he perceives the others to use. If a child

frequently receives praise from his teacher for his academic performance, he would be expected to come to conceive of himself as a "good student."

George Herbert Mead (1934) modified the Cooley idea by introducing the concept of the "generalized other," which represents the opinions of the entire community. Since it seems clear that not everybody with whom the individual interacts will regard him in exactly the same way, Mead argues that self-concept is determined by a sort of averaging of these opinions. The individual comes to regard himself in the way a generalized, or average, one of his associates would.

Though these ideas are more general, they are wholly compatible with the assumptions of Expectation Theory presented earlier. However, there are also differences between these two approaches. First, as already noted, the theory presented here refers to expectations for performance at each specific task, not to all tasks together. Second, Expectation Theory is concerned with only a part of the self-concept, that whis is related to performances and evaluations. As the terms will be used here, the difference between self-expectation (or self-evaluation) and self-concept is that there exist objective criteria for measuring the former. There are criteria for determining what constitutes a good performance, or a high ability, but there are no universally shared beliefs about what constitutes a "good" person.

For the empirical testing and verification of a theory, the problem is one of measurement: it is certainly easier to measure actual abilities than actual opinions; easier to measure someone's concept of his abilities than his concept of his opinions. However, there is no reason to suppose that the ideas contained in the "looking-glass self" or in the source extensions of Expectation Theory are inapplicable to areas of self-concept

where measurement is difficult; nor to suppose that empirical research in such areas is impossible.

With these qualifications in mind, it is possible to view the first source version of expectation theory as an attempt to articulate further the ideas of Cooley and Mead by specifying the necessary characteristics for a "significant other" (Sullivan, 1953). Not everybody's unit evaluations are helpful to the individual who wishes to form useful expectations for his own and others' performances, and some people's opinions are more useful than other people's. It is more satisfying to receive a positive evaluation from a person regarded as intelligent than from a dunce, and more rewarding to have one's skill praised by an expert than by a novice.

Incorporation of these ideas into the theory produced the assertion that in cases where the actor wished to evaluate his own performances, the relevant characteristic which determined whether he accepted the opinions of an evaluator was the perceived ability of the evaluator. The major derived predictions of this first statement were confirmed by the empirical tests performed. The second source theory incorporated added assumptions to the effect that in the absence of information on the ability of an evaluator, if the individual knows the state of a diffuse status characteristic possessed by the evaluator, he will use this information to infer an ability level for him. Again, similar predictions derived from the theory extension received empirical support. On the basis of these experiments it seems reasonable to conclude that evaluations from a high-credibility evaluator--whether his basis for becoming a source is access to objective evaluative standards, high ability, or possession of the high state of a diffuse status characteristic--affect the individual's

expectations for himself and for others. In both source experiments, evaluations from a low-credibility evaluator produced these effects to a lesser extent.

Expectation theory asserts that expectations for oneself and others are formed from evaluations of performance, but the version of the theory given here does not specify the process by which these individual unit evaluations are transformed into an expecration state. Clearly, a single unit evaluation usually will not be sufficient to produce an expectation state; rather, a series of similar evaluations is required. The process may be thought of as an increasing probabilistic function of the number of consistent evaluations (that is, consistently favorable or consistently unfavorable). The greater the number of such evaluations, the greater the probability that the individual will form an expectation state consistent with those evaluations. When evaluations are inconsistent, the probability that an individual will form a high expectation state should depend on the proportion of positive to negative evaluations as well as on the total number of evaluations; likewise, the probability for a low expectation state should depend on the proportion of negative to positive evaluations.

Application of the theory to real-life situations requires relaxing the rigorous control provided in the laboratory, and this step reduces the assurance that the theoretical scope conditions (such as strict task-orientation) and the methodological conditions (such as determined unit evaluations) will be met. In principle, the theory ought to be able to make good predictions for natural groups as well as for laboratory groups. However, many additional factors (not the least of which is chance variation) will operate to affect the dependent variables in any natural setting. Generalization of laboratory findings to a natural setting must

therefore be done cautiously, with awareness that predictions are less likely to be confirmed in this setting, and with the understanding that any single theory can provide only a partial explanation for any complex natural situation.

Expectation theory can be applied to a number of problem areas of interest to educational researchers, administrators, and policy makers--and to classroom teachers as well. A teacher's effectiveness probably depends, at least in part, on the students' acceptance of the teacher's evaluations, and expectation theory predicts that this acceptance will depend on the students' perception of the teacher's ability. If the teacher does not know his subject well and students recognize this, the students will not accept his evaluations of their knowledge of the subject. The theory would also predict that in situations where the teacher's ability is difficult to determine, the status of the teacher would affect the students' acceptance of his evaluations. Thus (other factors being equal) older teachers would tend to be more effective than younger teachers, men more effective than women, and whites more effective than Negroes. The teacher's status probably would have its greatest effect early in the year, when the students have not yet had the chance to form an opinion about the teacher's ability from observing him at work, since in order for status to determine expectations, the theory specifies that actors must not have information as to the evaluator's ability (part C of definition 1).

Expectation theory also can be used to predict the relative influence of teacher and classmates on a student's self-expectations. If he has accepted only one of them as a source, then, according to the theory, he will ignore the other, and his expectations will be determined solely by the source. If he has accepted both the teacher and some peer as sources

and their evaluations differ, then he may form either high or low expectations for his performance; this is an area currently under investigation. The effect of two evaluators who make similar evaluations appears to be additive, according to recent theoretical and empirical work by Sobieszek (1970). Since the total number of unit evaluations is an important variable affecting the probability that a specific (high or low) expectation state will be formed, the theory would predict that a student whose performances are more frequently evaluated by peers than by his teacher would be more likely to base his expectations for himself upon his peers' opinions than upon the less-frequent evaluations of his teacher. It seems reasonable to suppose that evaluations in academic subjects are more frequently received from teachers, while evaluations of athletic ability, social skills, and general breadth of knowledge are more frequently received from peers. If so, then the theory would predict that expectations in the latter areas would be much more likely to be influenced by peers than by the teacher. In addition, if a student gets the reputation for being generally "a brain" or "a dunce" (that is, if peers form either high or low general expectations for him), the effect of these frequent peer evaluations could act either to reinforce or to vitiate the effects of the teacher's evaluations of him.

Another application of expectation theory concerns the effect of status characteristics upon interpersonal interaction in the classroom. Of special relevance is the work of Katz and associates (Katz, Goldston, and Benjamin, 1958; Katz and Cohen, 1962) on the effect of race differences in problem-solving teams. In this work, it was found that Negroes in interaction with whites display nearly all types of behaviors predicted by assumptions 3 and 4 of the theory: they are deferential to whites' ideas, accept influence more frequently than they exert it, they evaluate

their own performances less highly than those of whites, etc. These effects would be predicted from the theory, since it can reasonably be argued that race is a diffuse status characteristic, and that expectations will be assigned to individuals on the basis of it.

Cohen (1969), in a more highly controlled setting, again demonstrated the effect of the racial status characteristic upon interaction, using junior-high-school-age boys in teams consisting of two whites and two blacks. This research was designed directly to test predictions from the extension of the theory concerning status characteristics and expectation states, and the results were in good accord with those predicted from the theory and with those mentioned above. In a more recent study (Cohen et al., 1970), the attempt was made to raise the level of blacks' expectations for their own performance before their interaction with whites; they were shown a special film of the task they were later to perform (assembling a crystal radio set) and were told that this information should improve their performances. The success of this attempt at manipulation was mixed: there were some indications of improved expectations as a result of the film, but as soon as interaction with whites began, the blacks behaved as if they had allowed their status characteristic (race) to determine their expectations.

One important interpretation of the results of the Cohen study made by those authors is that simple integration of schools will not <u>by itself</u> produce much improvement in the performance of blacks. In fact, in view of the powerful and persistent effects of status characteristics upon expectations, unless special efforts are made to avoid the sort of process reported by Cohen et al., integration may have the undesired effect of <u>decreasing</u> the quality of interaction and learning by the black students.

Further work will probably include the investigation of situations in which two evaluators are giving performance evaluations to individuals. One such extension (Sobieszek, 1970) has to do with the effect of one HE and one LE, including cases in which they agree on evaluations as well as cases in which they disagree. Results of the tests of this extension of the theory may be used to extend the theory further, to include the case of two HE's who disagree on the nature of their evaluations or the case of conflict between a High Status evaluator and a High Ability evaluator.

Another issue is the relation between evaluations from a source and stability or change in self-expectations. Some experiments currently being conducted indicate that change in existing expectation states can be produced by appropriate interaction conditions, including performance evaluations from a source. From this information, it should be possible to extend the theory to predict the effectiveness of different types of evaluators, either in changing an existing self-expectation--for example, raising the expectation level of school children--or in maintaining student's self-expectation level in the presence of disagreements and negative evaluations.

FOOTNOTES

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2. The formulation of the theoretical extension to be offered here closely parallels a formulation presented by Berger et al. (1969) for a theory of self-evaluation. As the term "self-evaluation" is usually used, it differs in at least two ways from "performance expectation." First a self-evaluation is usually used to describe an individual's perception of himself alone, while an expectation state implies a comparison with some other individual; and second, a self-evaluation is usually used to denote a trans-situational characteristic of an individual, whereas an expectation state refers to only one situation and only one specific task ability at a time. With these qualifications, assertions which have been made about self-expectations are in general quite compatible with assertions which could be made about self-evaluations.

3. Interaction between individuals who differ on several salient status characteristics at once appears to be very complex indeed. One has only to think of the case of a male Negro physician whose golf game is being evaluated by a female white sociologist to appreciate this complexity!

4. Note that we do not say that p holds a (+ -) <u>expectation state</u>, for whether this is true depends upon whether he has accepted these evaluations, and the theory asserts that he will accept them only when he has accepted E as a source.

5. Four excellent Research Assistants, Sue Bobrow, David Grafstein, John Kervin, and Robert Pollard, conducted all groups.

6. The Contrast Sensitivity task was developed by Professor Richard Ofshe, now at the University of California, Berkeley. The properties and development of this very useful laboratory tool are described in Ofshe, 1968.

7. Details of the Interaction Control Machine are available in Webster, 1967.

8. Mr. W. Baxter Smillie, of Stanford University, provided invaluable assistance with the computer analysis programs for these data.

9. Dr. Barbara Sobieszek, of the University of Rochester, and Mr. Israel Adler, of Stanford University, directed my attention to this statistic, and generously made available their computational programs for use with these data. The test is described in Jonckheere (1954).

10. The foregoing considerations are based upon the reasonable assumption that such a process model would closely parallel the process model for formation of expectations through interaction which is presented in Berger, Cohen, Conner, and Zelditch (1966). However it is important to point out that the process model for the effect of evaluations from a source has not been completely specified at present; for purposes of this discussion, the above outline of a model will be assumed.

TABLE 1

Overall P(s) by Condition

Condition	N	P(s)
HE(+ -)	24	.78
HE(- +)	25	.50
LE(+ -)	25	.70
LE(- +)	23	.50

TABLE 2

Statistical Tests of Derivations

Derivation	Prediction	N's	z-transformation	p
1.	HE(+ -) > HE(- +)	24,25	5.27	<.05
2.	LE(+ -) > LE(- +)	25,23	2.55	<.05
3.	HE(+ -) > LE(+ -)	24,25	2.77	<.05
4.	LE(- +) > HE(- +)	23,25	0.21	.42
5.	HE(+ -) > LE(+ -) > LE(- +) > HE(- +)	24,25 23,25	5.32	<.05

TABLE 3

Results of Two Previous Studies

P(s) by Evaluator Basis

Condition	Ability	Answer Key
HE(+ -)	.80	.78
HE(- +)	.48	.44
LE(+ -)	.65	
LE(- +)	.58	

TABLE 4

Effect of Mentioning High State of a Specific Characteristic in Interview

P(s) for Ss Mentioning

Condition	N	Mentioning	Not Mentioning
LE(+ -)	5	.72	.70
LE(- +)	5	.32	.55

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